

Remarks

This Amendment is filed in response to the Office Action dated April 6, 2005. Claim 3 has been canceled without prejudice. Claims 1-2 and 4-19 are currently pending. Reexamination and reconsideration are respectfully requested.

Claims 1-4, 6, 9, and 12-14 were rejected under 35 U.S.C. 102(b) or 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 5,750,823 to Wofford et al. ("Wofford"). The rejection is respectfully traversed. Claim 3 has been canceled without prejudice.

Applicant respectfully submits that the Examiner has not met his burden to establish unpatentability. Applicant respectfully submits that the Examiner's citations to Wofford do not appear to describe or suggest an apparatus including "a plasma process section" and "a reactive material supply section . . . , wherein the mixed gas is subject to a plasma process under the atmospheric pressure to generate a polymer with the PFC and the reactive material," as recited in claim 1.

First, applicant respectfully submits that the Examiner's citations to Wofford do not appear to describe an apparatus that generates a "polymer" as recited in claim 1. While the Examiner refers in the Office Action on page 2 to "collection of the polymer created by the plasma process section", there is no particular portion of Wofford that is cited for this statement.

Applicant notes, for example, that in the detailed description section of the present application, at page 6, lines 15-22, carbon tetrafluoride is mixed with methane to form a polymer. On the other hand, in Wofford at col. 4, lines 51-54, carbon tetrafluoride is mixed with methane and oxygen to form carbon dioxide and hydrogen fluoride, and no polymer formation is described.

Second, applicant respectfully submits that the Examiner's citations to Wofford do not appear to describe an apparatus in which "the mixed gas is subject to a plasma process under the atmospheric pressure to generate a polymer" as recited in claim 1. The Examiner stated in the Office Action on page 2 that the "plasma process section 12 is located on the atmospheric pressure side of the vacuum pump 2." However, the Examiner did not appear to note that the apparatus of Wofford also includes a pump 14, and using the rationale that the Examiner used

relating to the position of the pump 2, one might conclude that the plasma process section 12 is located on the low pressure side of the pump 14. Moreover, the Examiner did not appear to cite any portion of Wofford that expressly describes or suggests that the pressure in the plasma process section 12 is at atmospheric pressure.

For either of the above reasons, applicant respectfully submits that the rejection of claim 1 and its dependent claims 2 and 4 should be withdrawn. The rejection of claim 6 and its dependent claims 9 and 12-14 should also be withdrawn for similar reasons as claim 1.

Claims 5 and 15-18 were rejected under 35 U.S.C. 103(a) as unpatentable over Wofford in view of U.S. Patent No. 5,720,165 to Rizzie et al. ("Rizzie"). The rejection is respectfully traversed.

Claim 5 depends from claim 1 and claims 15-18 depend from claim 6. The Examiner's citations to Rizzie do not overcome the deficiencies of Wofford as discussed above. Accordingly, the rejection of claims 5 and 15-18 should be withdrawn.

Claims 7, 8, 10, 11 and 19 were rejected under 35 U.S.C. 103(a) as unpatentable over Wofford in view of U.S. Patent No. 6,261,524 to Herman et al. ("Herman"). The rejection is respectfully traversed.

Claims 7, 8, 10, 11, and 19 all depend from claim 6. The Examiner's citations to Herman do not overcome the deficiencies of Wofford as discussed above. Moreover, it appears that the Examiner's citations to Herman do not appear to indicate that Herman describes an apparatus that utilizes a plasma process section to react with the PFC, or that one of ordinary skill would have any desire to combine a non-plasma system with a plasma system. Accordingly, the rejection of claims 7, 8, 10, 11 and 19 is deficient and should be withdrawn.

Claims 1-4, 6, 9 and 12-14 were rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 6,055,927 to Shang et al. ("Shang"), in view of Wofford. The rejection is respectfully traversed.

As noted earlier, claim 3 has been canceled without prejudice. Shang, as described in the abstract and throughout the specification, appears to relate to an apparatus and method for reducing white powder formation in a process chamber used for depositing silicon nitride. As noted by the Examiner on page 5 of the Office Action, the primary reference Shang "does not teach using PFC or a waste system that includes a reactive material supply, a plasma process

section or a cyclone collector.” The Examiner also cited no portion of Shang that describes a plasma processing system that forms a polymer as recited in claim 1, for example. Thus, it is not clear what relevance, if any, that Shang has to the claimed invention. The Examiner then combined Shang with Wofford. However, Shang does not appear to overcome all of the deficiencies of Wofford as described earlier. In addition, the Examiner has not met his burden to establish that one of ordinary skill would desire to combine Shang the Wofford, given that Shang admittedly is directed towards a very specific invention relating to the deposition of silicon nitride. The Examiner did not appear to cite any portion of the art that would motivate one desiring to deposit silicon nitride as described in Shang, to completely modify (and complicate) the Shang apparatus with Wofford as set forth by the Examiner. Instead, the Examiner appears to be using improper hindsight in an attempt to combine substantially different references.

Accordingly, for either of the reasons described above, applicant respectfully requests that the rejection of claims 1-2, 4, 6, 9 and 12-14 is deficient and should be withdrawn.

Claims 5 and 15-18 were rejected under 35 U.S.C. 103(a) as unpatentable over Shang and Wofford in view of Rizzie. The rejection is respectfully traversed.

Claim 5 depends from claim 1 and claims 15-18 depend from claim 6. The Examiner’s citations to Rizzie do not overcome the deficiencies of Shang and Wofford as discussed above. Accordingly, the rejection of claims 5 and 15-18 should be withdrawn.

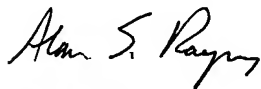
Claims 7, 8, 10, 11 and 19 were rejected under 35 U.S.C. 103(a) as unpatentable over Shang and Wofford in view of U.S. Patent No. 6,261,524 to Herman et al. (“Herman”). The rejection is respectfully traversed.

Claims 7, 8, 10, 11, and 19 all depend from claim 6. The Examiner’s citations to Herman do not overcome the deficiencies of Shang and Wofford as discussed above. Moreover, it appears that the Examiner’s citations to Herman do not appear to indicate that Herman describes an apparatus that utilizes a plasma process section to react with the PFC, or that one of ordinary skill would have any desire to combine a non-plasma system with a plasma system. Accordingly, applicant respectfully submits that the rejection of claims 7, 8, 10, 11 and 19 is deficient and should be withdrawn.

The Office Action also included various comments concerning the art and the non-patentability of features in various of the pending claims. Applicants respectfully disagree with the Examiner's non-patentability conclusions. The discussion above has directly addressed some of those comments and the Examiner's other comments are deemed moot at this time in view of this response.

For at least the reasons stated above, applicant respectfully submits that the pending claims are in patentable form. Reexamination and reconsideration are respectfully requested. If, for any reason, the application is not in condition for allowance, the Examiner is requested to telephone the undersigned to discuss the steps necessary to place the application into condition for allowance.

Respectfully submitted,



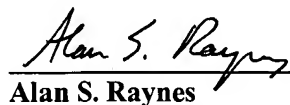
Alan S. Raynes
Reg. No. 39,809
KONRAD RAYNES & VICTOR, LLP
315 South Beverly Drive, Suite 210
Beverly Hills, CA 90212
Customer No. 24033

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(310) 556-7983 (tele general)
(310) 871-8448 (tele direct)
(310) 556-7984 (facsimile)

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Alan S. Raynes

July 6, 2005
(Date)